

**WHAT IS CLAIMED IS:**

1           1. A filter for a plasma display panel, comprising:  
2           a substrate;  
3           a conductive material pattern formed on the substrate;  
4           a negative photoresist pattern, patterned on the substrate on portions not covered by the  
5           conductive material pattern to complement the conductive material pattern, the negative  
6           photoresist pattern comprising a pigment and a dye that cuts off light in a specific wavelength  
7           range, as well as a material that prevents external light from being reflected; and  
8           a plated mesh formed on a conductive material pattern.

1           2. The filter of claim 1, the negative photoresist pattern comprising a material selected  
2           from the group consisting of a transparent acryl group and a phenol group.

1           3. The filter of claim 1, the dye comprising an organic compound selected from the group  
2           consisting of an imonium group and a phthalocyanin group, the pigment comprising an organic  
3           compound of the imonium group, the dye blocking near infrared rays.

1           4. The filter of claim 1, the dye comprising an organic compound selected from the group  
2           consisting of an imonium group and a phthalocyanin group, the pigment comprising an organic  
3           compound of the imonium group, the dye blocking light having a wavelength near 590 nm.

1           5. The filter of claim 1, the combined thickness of the conductive material pattern and the  
2 plated mesh formed thereon being in a range of 1 to 50  $\mu\text{m}$ .

1           6. The filter of claim 1, wherein said material preventing the external light from being  
2 reflected being selected from the group consisting of a metal powder and an inorganic metal oxide.

1           7. A method of manufacturing a filter for a plasma display panel, the method comprising  
2 the steps of:

3           coating an entire surface of a substrate with a layer of a conductive material;

4           forming a predetermined positive photoresist pattern on the conductive material by  
5 applying the photoresist, exposing the photoresist and developing the exposed photoresist;

6           etching exposed conductive material;

7           removing said patterned positive photoresist leaving a patterned conductive material on the  
8 substrate;

9           coating said entire surface of the substrate having the patterned conductive material with  
10 a layer of negative photoresist that comprises a dye and a pigment that cuts off light in a specific  
11 wavelength range, the negative photoresist further comprising a material preventing external light  
12 from being reflected;

13           exposing the negative photoresist by illuminating said substrate from a side opposite from  
14 said surface containing said patterned conductive layer and the negative photoresist;

15           developing the exposed negative photoresist to form a pattern exposing said patterned

16       conductive material; and

17               forming a plated mesh on the exposed conductive material pattern by electrical plating.

1               8. The method of claim 7, wherein the negative photoresist comprises a material selected  
2       from the group consisting of a transparent acryl group and a phenol group.

1               9. The method of claim 7, the dye comprises an organic compound of an imonium group,  
2       and the pigment comprises an organic compound of the imonium group, the dye filtering out near  
3       infrared rays.

1               10. The method of claim 7, wherein the dye is an organic compound of an imonium group  
2       or a phthalocyanin group, and the pigment is an organic compound of the imonium group, the dye  
3       blocking light having a wavelength of about 590 nm.

1               11. A method for making a filter for a plasma display panel, comprising the steps of:  
2               forming a patterned layer of a conductive material on one side of a transparent substrate;  
3               applying a layer of negative photoresist on said patterned side of said substrate;  
4               exposing a pattern in said negative photoresist by illuminating a side of said substrate  
5       opposite said patterned side;  
6               developing said negative photoresist exposing only portions on said one side of said  
7       substrate patterned by the conductive material; and

8 increasing the thickness of said conductive material on said one side of said substrate by  
9 electroplating.

1 12. The method of claim 11, said negative photoresist forming a pattern that complements  
2 said patterned conductive material.

1 13. The method of claim 11, said patterned conductive material being formed by forming  
2 a blanket layer of conductive material, applying, patterning, and developing a positive photoresist  
3 layer on the blanket conductive layer and then etching the conductive layer with patterned  
4 photoresist thereon before removing the patterned positive photoresist.

1 14. The method of claim 13, said blanket layer of conductive material being formed by  
2 sputtering.

1 15. The method of claim 11, adding additives to said negative photoresist prior to said  
2 applying step, the additives serving to filter out near infrared wavelengths.

1 16. The method of claim 11, said patterned layer of said conductive material serves as a  
2 mask in said exposing step.

1 17. A filter for a plasma display, comprising:

2 a substrate that is transparent to light;  
3 a conductive mesh pattern formed on one side of the substrate; and  
4 a non conductive material disposed on said one side of said substrate at locations absent  
5 said conductive mesh.

1 18. The filter of claim 17, said conductive mesh and said non-conductive material having  
2 equal depths between 1 and 50 microns.

1 19. The filter of claim 17, said non conductive material being negative photoresist  
2 containing additives.

1 20. The filter of claim 17, said mesh being electrically grounded.

1 21. The filter of claim 17, said mesh having a grid pattern.

1 22. The filter of claim 17, said additives comprising a dye.